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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,342	12/31/2003	Jagrut Viliskumar Patel	030439	9469

23696 7590 08/08/2007
QUALCOMM INCORPORATED
5775 MOREHOUSE DR.
SAN DIEGO, CA 92121

EXAMINER

BHAT, ADITYA S

ART UNIT	PAPER NUMBER
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2863

NOTIFICATION DATE	DELIVERY MODE
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08/08/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/750,342	Applicant(s) PATEL ET AL.	
	Examiner Aditya S. Bhat	Art Unit 2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-11,14-22,25-30 and 33-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-11,14-22,25-30 and 33-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 5-11, 14-22, 25-30 and 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luick (USPUB 2003/0229662) in view of Conn Jr. (USPN 5,795,068)

With regards to claim 1, 10 and 30, Luick (USPUB 2003/022962) teaches a method, a processor and a computer readable program for determining an operating parameter of a chip having first and second ring oscillators, comprising:

measuring a frequency of the first ring oscillator; (Refer to figure 6)
measuring a frequency of the second ring oscillator; (Refer to figure 6) and
calculating an temperature of the chip as a function of the first and second ring oscillator frequencies. (Refer to figure 6)

With regards to claim 2, 11 and 22, Luick (USPUB 2003/022962) teaches obtaining two ring oscillator clock counts, separated by a time difference, from a ring oscillator; obtaining two independent clock counts, separated by the time difference, from a clock output independent from the ring oscillator; and calculating a ratio of the

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difference between the two ring oscillator clock values and the difference between the two independent clock values. (Page 4, Paragraph 0056)

With regards to claim 5, 14 and 25 Luick (USPUB 2003/022962) teaches multiplying the measured frequency of the first ring oscillator by the measured frequency of the second ring oscillator to obtain a result; and

determining, as a function of the result and characterization data of the chip, the chip's actual temperature. (Page 4, Paragraph 0056)

With regards to claim 6, 15 and 26, Luick (USPUB 2003/022962) teaches dividing the measured frequency of the first ring oscillator frequency by the measured frequency of the second ring oscillator to obtain a result; and

determining, as a function of the result and characterization data of the chip, the chip's process speed. (Page 4, Paragraph 0056)

With regards to claim 7, 16 and 27, Luick (USPUB 2003/022962) teaches multiplying the measured frequency of the first ring oscillator by the measured frequency of the second ring oscillator to obtain a second result;

determining, as a function of the second result and the characterization data, the chip's actual temperature; and

adjusting the determined process speed according to the determined actual temperature. (Page 4, Paragraph 0056)

With regards to claim 8, 17 and 28, Luick (USPUB 2003/022962) teaches calculating a scaled frequency value from the first and second measured ring oscillator frequencies and characterization data of the chip; comparing the calculated scaled

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frequency value with a known range of scaled frequency values relative to temperature; and determining, from the comparison, the actual temperature of the chip. (Page 4, Paragraph 0056)

With regards to claims 9, 18 and 29, Luick (USPUB 2003/022962) teaches calculating a scaled frequency value from the first and second measured ring oscillator frequencies and characterization data of the chip; comparing the calculated scaled frequency value with a known range of scaled frequency numbers relative to process speed; and determining, from the comparison, the process speed of the chip. (Page 4, Paragraph 0056)

With regards to claims 19, Luick (USPUB 2003/022962) teaches a system comprising:

a chip having first and second ring oscillators; (Page 4, Paragraph 0056) and a processor configured to:

measure a frequency of the first ring oscillator; (Refer to figure 6)

measure a frequency of the second ring oscillator; (Refer to figure 6) and

calculate temperature of the chip as a function of the first and second ring oscillator frequencies. (Refer to figure 6)

With regards to claims 20, Luick (USPUB 2003/022962) teaches the chip comprises the processor. (Refer to figure 7)

With regards to claims 21, Luick (USPUB 2003/022962) teaches the processor is separate from but operably connected to the chip. (Refer to figure 7)

Luick (USPUB 2003/022962) does not appear to teach determining an actual temperature of the chip

Conn Jr. (USPN 5,795,068) teaches determining an actual temperature of the chip. (Col. 5, lines 55-57)

With regards to claims 33-36, Luick (USPUB 2003/022962) does not appear to teach determining a process speed of the chip in response to the temperature.

Conn Jr. (USPN 5,795,068) teaches determining a process speed of the chip in response to the temperature.(col. 1, lines 12-15)

It would've been obvious to one skilled in the art at the time of the invention to modify the Luick invention to determine the actual temperature and determine the process speed of the chip in relation to the temperature in order to optimize chip performance.

Response to Arguments

Applicant's arguments with respect to claims 1-2, 5-11, 14-22, 25-30 and 33-36 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yin (USPUB 2002/0181543) teaches a temperature sensing circuit and method, Gauthier et al. (USPN 6,934,652) teaches a on-chip temperature measurement technique, and Conn Jr. (USPN 6,067,508) teaches a method and apparatus for measuring localized temperatures of integrated circuits,

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aditya S. Bhat whose telephone number is 571-272-2270. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 571-272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Aditya Bhat
July 31, 2007


John Barlow
Supervisory Patent Examiner
Technology Center 2800